

Title (en)

CONTROL SYSTEM AND CONTROL METHOD FOR INTERNAL COMBUSTION ENGINE

Title (de)

STEUERUNGSSYSTEM UND STEUERUNGSVERFAHREN FÜR EINEN VERBRENNUNGSMOTOR

Title (fr)

SYSTÈME DE COMMANDE ET PROCÉDÉ DE COMMANDE POUR MOTEUR À COMBUSTION INTERNE

Publication

**EP 3108228 A1 20161228 (EN)**

Application

**EP 15710591 A 20150216**

Priority

- JP 2014030969 A 20140220
- IB 2015000159 W 20150216

Abstract (en)

[origin: WO2015124985A1] A control system for an engine includes a limiting current gas sensor includes a pumping cell arranged in the exhaust passage of the engine and an ECU. The ECU is configured to: execute step-up operation for increasing a voltage applied between a pair of electrodes of the pumping cell from a first voltage to a second voltage, then, execute step-down operation for reducing the applied voltage from the second voltage to a third voltage within a second period; acquire an air-fuel ratio of the exhaust gas multiple times within a first period from a start of the step-up operation to a start of the step-down operation; acquire a first waveform characteristic value indicating a characteristic of a waveform of current within the second period; and estimate an actual concentration of sulfur in fuel by using the first waveform characteristic value and the acquired air-fuel ratios.

IPC 8 full level

**G01N 27/407** (2006.01); **F02D 41/14** (2006.01); **G01N 33/28** (2006.01)

CPC (source: CN EP US)

**F02D 41/1444** (2013.01 - CN EP US); **F02D 41/1454** (2013.01 - US); **F02D 41/1456** (2013.01 - CN EP US); **F02D 41/263** (2013.01 - US); **G01N 27/4074** (2013.01 - CN EP US); **F02D 41/1458** (2013.01 - CN EP US); **F02D 41/18** (2013.01 - CN EP US); **F02D 2200/0612** (2013.01 - CN EP US); **G01N 33/287** (2013.01 - CN EP US)

Citation (search report)

See references of WO 2015124985A1

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)

BA ME

DOCDB simple family (publication)

**WO 2015124985 A1 20150827**; CN 106030083 A 20161012; CN 106030083 B 20181207; EP 3108228 A1 20161228; EP 3108228 B1 20211222; JP 2015155850 A 20150827; JP 6090203 B2 20170308; US 2017009695 A1 20170112; US 9982622 B2 20180529

DOCDB simple family (application)

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